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HAY FEVER: ETIOLOGY AND SPECIFIC TREATMENT.

A Resumé of the work of Dr. Dunbar, Director of the State Hygienic Institute at Hamburg.

BY V. E. HENDERSON, M.A., M.B., TOR.

Since the London physician, John Bostock, in 1819 drew attention to the symptom-complex which he carefully described as a separate disease under the name of "summer catarrh—catarrhus æstivus," and attributed its cause to the heat of summer, the etiology of this affection has been more or less in doubt. Dr. Dunbar, a German professor, seems, however, to have at least settled this much disputed question.

Elliotson, in 1831, was the first to suggest pollen of plants as the cause, but in 1870, Helmholz, a careful observer cast very strong doubts upon the theory. In 1873 Blackeley carried out a very careful series of experiments to show that pollen was the cause. He collected the pollen of many plants and tested them by having hay fever patients snuff them into the nose, or by placing them in the conjunctival sac, and in this way obtained symptoms of hay fever. Further he counted the number of pollen grains falling per square centimetre on a glass plate covered with a sticky film and showed that when an appreciable number of pollen grains could in this way be proved to be in the air, patients began to be affected and that the maximum fall of pollen grains coincided with the time of maximal severity of the disease. He showed, too, that pollen fell in the centres of large cities and at sea, and was wind carried for many miles. Knowing this it is strange that he did not take more pains to

obtain his pollen pure, as probably his results were due to the pollen being mixed with the pollen of grasses. In 1877 Dr. G. F Patton, as the result of some experiments with pollen, came to the conclusion that it could not be the sole cause even in predisposed persons. Blackeley, in 1878, repeated some of his observations and reiterated his belief that pollen was a cause. In 1886, J. Mackenzie cast doubt on the pollen theory. Stricker suggested that pollen was capable of causing exacerbation, but was not effective except during the hay fever period. Heymann and Matzuschita made an examination of the nasal secretion of hay fever patients and their results led them to believe that it was caused by a micro-organism. In 1901, Weil and Thost expressed strong doubt as to pollen being the cause, and the latter suggested that it was due to odors and especially those arising from the æthereal oils in plants. Fink suggested that it was the fine terminals of the fifth nerve in nose and conjunctiva that was affected by the irritant.

Evidently, then, in spite of Blackeley's careful work the etiology of the disease was still in Germany, at all events, an open and much disputed question. Dr. Dunbar's interest in the question of hay fever was increased by the fact that following a severe attack of influenza in 1895 he became himself a sufferer from this most unpleasant affection. At that time he, too, was doubtful of the pollen theory and was inclined to believe that hay fever was caused by bacteria. A series of careful observations, however, led him to believe that Blackeley was right in his arguments. These observations and experiments were carefully made and are very interesting.

For seven years Dr. Dunbar has, while in Hamburg, suffered from typical attacks of hay fever from the end of May or the first of June till towards the middle or end of July of each year. In 1898 he took a long trip during April through France, Spain and Northern Italy. During this trip he had two attacks of hay fever, one in the last of April, in travelling from Turin to Venice and from which he completely recovered in Venice, and a second while travelling from Venice to Verona. After returning home he was free from it until his regular attacks began again in June. In 1901 while making a journey of some eighteen hundred miles during the last week in May and the first weeks in June, he was alone in his compartment and was able to make the experiment of opening and closing the window. He found that when the window was open and the train passing through cornfields he at once felt the initial symptoms of a hay fever attack in the form of beginning irritation in eyes and nose that every hay fever patient knows so well. If, however, the train was passing through forests or over heaths, the symptoms did not occur when the window was open, nor did

they occur on certain rainy days, even when passing through wheatfields. While staying in the Harz Mountains in July of that year he also noticed that he was free from attacks while in the forest, but on going into the higher uplands where the grasses were still in bloom he at once suffered. In view of these observations, he, during the critical period of the next year, that is, for about six weeks in June and July, he kept the windows and doors of the room in which he lived and worked tightly closed both day and night. In spite of the increase in heat, he was quite free from attacks of hay fever; and he found that his general health did not suffer as much as usual during that time; that he was, in fact, surprisingly well. He found, too, that on still sunny days he could take quite a long drive without suffering for it. This experiment alone should serve as a very valuable suggestion to many hay fever patients who are unable to escape to the mountains or other immune spots.

Dr. Dunbar was now thoroughly convinced that the cause of the disease was certainly not a micro-organism which having once infested the mucous membranes of the eye and nose, increased there and produced the disease with its most unpleasant symptoms, but that whatever produced the disease was something which was carried by the wind and which acted as a definite irritant, and that the attack was only prolonged by renewed supplies of that irritant. He felt further that the etiology could not be considered as proved until one went further than Blackeley had done and had isolated the irritant in a pure state, and had caused by its action on the mucous membrane typical hay fever attacks, with symptoms objective and subjective, not only during the critical time of year, but also beyond or outside that critical period independent of weather or temperature, and had shown that this isolated irritant affected only hay fever sufferers and not normal individuals. With the problem thus clearly presented to his mind he gathered the pollen of grasses and flowers in a pure state. In order to do this he found that various devices were necessary. Specimens of any species of grass were carefully gathered when in bloom and with the aid of forceps their anthers were carefully removed and placed in a sterile glass dish with a cover. This dish was then shaken and the pollen fell out and appeared as a very fine yellow powder. A microscopic examination was always made to ascertain whether the pollen was unmixed with that of other grasses or plants. The pollen grains of plants differed widely in their form and size, some being prickly, some smooth, some oval or round, some with distinct corners and angles. Another method that was also used frequently was to stand the plants in water in a narrow room, and at the end of some hours surround them

with sterile dishes, and then gently shake the plant. The pollen fell out as a fine powder into the dishes.

With pollen thus obtained the following experiments were carried out after the critical period for the year had passed. The first experiment consisted in applying by means of a swab, which was dipped dry into the dish containing pollen, pollen from several species of grass to the nasal mucous membranes of six persons, three hay fever sufferers (all doctors) and three normal individuals. The three normal persons remained quite unaffected, while the three others sneezed at once, frequently, and within a minute the nasal mucous membrane of that side was so congested as not to admit the passage of air. This congestion lasted from fifteen to twenty-five minutes while the mucous membrane showed the effects throughout the day by recurring periods of congestion. In the next experiment, in which the same three hay fever patients were used, but not of course, till all symptoms due to the last experiment had quite disappeared, pollen was placed by the same method in the conjunctival sac of six persons. The three normal persons were unaffected, the other three at once felt an irritation and burning pain in the eye infected, which was at once followed by a congestion, in five minutes easily visible, a marked tear secretion and an edema of the eyelid. The subjective feelings reached their height in thirty minutes, but a feeling of general discomfort, a dull pain in the eye, with more pain on reading, lasted for eighteen hours. All the objective symptoms did not disappear till about the end of twenty-four hours. Further experiments were carefully carried out to show that the effect was not psychical in any way, and other experiments to show that it was not due merely to mechanical irritation, various purely mechanical substances being used for that end and also other pollen grains with much rougher coats than those used in the above experiments. A further series of experiments were made with eye-pollen which has a smooth coat and yet works very powerfully.

That the pollen of grasses, and in particular rye, acted as specific causes of hay fever, and that not on account of their mechanical properties, seemed to be proved by these experiments. Following these experiments many others have been tried, many hay fever and normal persons being tested with uniformly the same result, and up to the time of Dr. Dunbar's address before the Medical Society in Hamburg in the end of May some twenty-five species of grass had been tried with positive results though with varying power, and some fifty other plants all with negative results with one exception, an extraordinary but unimportant one. The lily of the valley pollen was found to bring on typical attacks, but as its pollen is not wind-

carried, from an etiological standpoint this exception is of no moment. Later experiments to be referred to later in this review have shown that the pollen of the golden rod (solidago) and the golden rod (ambrosia) bring on hay fever attacks in some cases. These plants, however, do not occur in Germany, and do not bloom during the critical time of year for the hay fever patient, which is pre-eminently that of the blooming grasses. Among the pollens tried were many of those said by Blackeley to bring on attacks, and those of many other flowers, in particular those of the roses and linden, upon which suspicion had been cast by different writers on the subject.

In order to more nearly reproduce the natural conditions of infection, two persons, one normal and the other a hay fever sufferer, entered a closed chamber to which air was supplied, each carrying a small dish with a little pollen in the bottom. On a given signal they blew into their dishes. In this way a comparatively small number of pollen grains were disseminated in the air. At the end of four minutes they left the chamber and shortly after the predisposed person began to have burning pains in his chest, which developed into a very severe attack of asthma of the hay fever type and from which he had never previously suffered. He only recovered from this attack after some two days. During the time of confinement he had, he remembered, been talking and breathing almost exclusively through his nose. At a later date the experiment was exactly repeated; the hay fever patient kept his mouth closed, breathed through his nose and as a result had all the subjective and objective symptoms of a typical hay fever attack. In both cases the normal person remained quite unaffected. As it had been suggested that the effect was brought about by an action on the end fibres of the tegumens, two persons, normal and hay fever sufferer, were injected with pollen in the rectum. The hay fever patient suffered from a burning pain and irritation, the other was quite unaffected.

Dr. Dunbar having thus demonstrated that in predisposed persons the pollen of grasses brought about hay fever and that not in any mechanical way, nor by any local effect on peculiar mucous membranes, but evidently by some process of general poisoning, attempted to farther isolate the poison. In this he was aided by the failure of one of his experiments in which he used dried pollen and which led him to repeat the experiment, the only difference being that he ground the pollen and thus ruptured its thick outer coat of suberin, allowing its inner coat of cellulose, or its contents, to become free. In this case the result was quite successful. Observation showed that this rupturing of the outer coat usually occurred when the pollen was brought into water, tears, nasal secretion, blood serum or

physiological saline, and had to take place before the irritant was set free. That as mentioned above had suggested that in the case of pollen being the exciting agent that it was the volatile oil that was the irritant. Dr. Dunbar to test this theory ground up some rye pollen and shook the debris in ether and filtered. Then he carefully evaporated the ether filtrate, and was rewarded by obtaining a largish drop of oil. Two persons, normal and hay fever sufferer, at once received half the drop each, in the conjunctival sac of one eye. Although the half drop contained the oil from many more than the number of pollen grains necessary to bring on a severe attack neither subject suffered in the least.

Fresh rye pollen was shaken with a mixture of equal parts of water and ether, the pollen grains broke up and the result was a temporary emulsion which appeared like thin mucous. On settling there was an upper ether layer, which removed and evaporated, yielded a second drop of oil, also found to be inocuous, and an underlayer, watery, with a deposit at the bottom. Both of these when tested gave positive evidence of the presence of the irritant. If the coats of the pollen grain be ruptured the contents quickly dissolves in physiological saline, tears, nasal secretion and blood serum. From a solution in saline or serum the unruptured pollen grains and the particles of the coats can readily be removed by the use of the centrifuge. The solution also contains the toxin, which therefore, is soluble. The chief constituent within the coats of the pollen grain are short, bacillus-like rods which give a starch reaction with iodine, and are therefore known as the amlyoid rods. These rods are soluble in saline, blood serum, tears and nasal secretion.

Some rye pollen was ground so as to break the outer coats of the grains, dissolved in saline, centrifuged and filtered, and to the filtrate thus freed from any undissolved grains, outer coats and debris, alcohol was added. This caused a precipitate flocculent, but very heavy. The precipitate was collected on a filter, washed with alcohol and dried. Very small amounts of the powder thus obtained when brought into contact with the nasal or conjunctival mucous membranes were sufficient in predisposed persons to bring on symptoms of hay fever. The alcoholic filtrate was carefully evaporated, and left a small amount of an hydroscopic substance which, however, proved to be quite non-toxic. Careful solution in saline with examination of the sediment with the microscope, showed that when all the amyloid rods were dissolved the sediment lost all toxic power. The amyloid masses then contain, if they are not themselves, the toxic body. The precipitate gives with warm water the same sort of thick opalescent solution as is obtained with starch. It is soluble in weak caustic soda solution, and

neutralizing such a solution destroys its toxic power. Its toxic properties in solution are not destroyed by boiling. Blood serum solutions exposed to the air loses in time its toxic power. All the pollens thus examined and capable of bringing on hay fever attacks contain such amyloid rods, but they are also contained in many pollens which are not toxic. Ordinary starch is quite innocuous.

In order to further ascertain whether the poison thus isolated was a toxin capable of working within the body, and in thus getting an idea as to whether it was absorbed and then acted in the body, or whether its action was purely a local one, the experiment of injecting a small amount of the poison subcutaneously was tried. A doctor predisposed to hay fever and a normal person were each given one-tenth of a cubic centimeter of a solution of this toxin in one cubic centimeter of water. The result in the hay fever sufferer's case was a very severe and even serious attack of hay fever combined with other symptoms not typically occuring in hay fever, such as edema and congestion of the face, loss of voice with congestion of larynx, pain in the chest and inspiratory stridor. The symptoms quickly reached their climax and in some four hours the patient began to feel better, but was not well again for some two or three days. at the site of innoculation there was a burning pain and a marked swelling, which gradually extended over the whole forearm and hand. The normal person experienced only a slight burning pain and slight swelling at the point of injection.

The experiments with the toxin have been carried out on many different persons, and in all cases with successful results in those predisposed, negative results in normal persons, and many different plants have been examined for such a toxin, but from grasses only with the exceptions mentioned above, have toxins been obtained. Sir Felix Simon, in a communication to a recent number of the *British Medical Journal*, reports on an experiment in which the toxin seemed to produce an attack of hay fever while the antitoxin (mentioned below) relieved it.

With the highly successful series of experiments whose results and whose descriptions have been condensed in the preceding experiments, Dr. Dunbar was by no means satisfied, but went further and attempted to produce a specific antitoxin for the toxin he had isolated. With this end in view he gave rabbits a series of intravenous injections (three or more) either of the toxin prepared at first from rye or of pollen at intervals of three days. The animals stood the injections well. Four days after the third injection one of the rabbits was bled aseptically and clear serum obtained. One cubic centimetre of this serum was injected into the forearm of a hay fever sufferer. A swelling formed at the point of injection with a slight burning pain.

In about an hour the patient's nasal mucous membrane was injected with a large dose of rye pollen and in a few minutes frequent sneezing, and swelling of the mucous membrane, together with other symptoms were only too manifest signs that the patient was not as yet immune. The feeling of general ill-health and discomfort were quite marked. About an hour later, however, the objective symptoms of the attack rapidly disappeared and the patient had a "fresh feeling" to which he was altogether unaccustomed after a hay fever attack. Seven hours after the injection it was found impossible to infect the patient even when large doses of toxin were used. By the next day this temporary immunity was completely lost. Clear serum from another rabbit, removed some weeks after the last injection, was added to a solution of pollen toxin in a test tube and drops of the mixture placed in the conjunctival sac of a hay fever sufferer. Though a drop contained more toxin than enough to bring on marked symptoms, no discomfort was experienced nor were there any objective symptoms. Further, a small dose of toxin was placed in the other conjunctival sac, and at once the usual symptoms of irritation and congestion set in. The patient was still liable, and the toxin had evidently been neutralized by the antitoxin without the body. This experiment was repeated many times and it was found that the antitoxin always neutralized the toxin but sometimes not completely. So, too, experiment showed that after applying the toxin to the conjunctival sac of a predisposed person, and so lighting up an attack, the application of the antitoxin serum locally, rapidly allayed the symptoms, both objective and subjective. The purely subjective symptoms disappeared very rapidly, the congestion naturally more slowly. In other experiments the antitoxin was not used till after the symptoms brought on by the toxin had become severe, and then too, successfully. In one case in which a half cubic centimeter of antitoxin was injected during a severe artificially produced attack, a sudden improvement occurred in fifteen minutes, which could easily be seen and its course followed by observing the changes in the swollen and badly congested conjunctival mucosa. This improved, till almost normal at the end of thirty minutes, again grew worse, but at the end of an hour appeared quite normal, and the patient had the same "fresh feeling" experienced by the patient in the experiment mentioned before.

Dr. Dunbar found that an antitoxin produced by the injection of rye pollen or toxin was able to neutralize solutions, or act as an antitoxin for the toxin of the other species of grass or their pollen. With this success, Dr. Dunbar interested the proprietors of a factory in the question and with the use of bones a stronger

antitoxin was produced, and also in such large quantities as to be capable of a very widespread test during the following critical hay fever period. Last spring many doctors in Germany and some in England and in America tested the antitoxin, and their results were surprisingly, unanimously favorable. Some of the cases in which a carefully and frequent use of the antitoxin was made kept the patients free from hay fever in a way that proved quite a surprise to them. The antitoxin was at first used as a serum, but later owing to some objectional features arising from the necessity of adding small amounts of carbolic acid as a preservative, it was prepared in the form of a powder. The method of using the antitoxin powder that Dr. Dunbar advises, is to put a very small pinch in each nasal passage, and a still smaller pinch in each conjunctival sac before retiring to bed at night, and also before rising in the morning, and during the day only if the patient feels the initial symptoms of an attack. The patient should sleep with the window closed, to avoid infection with pollen during the night.

Having thus experimentally dealt with the question of the etiology and treatment of hay fever, Dr. Dunbar turned his attention to that type of hay fever, or autumn fever, which in America sets in in August and lasts into September. Careful experiments with the pollen of the golden rod (solidago), and ragweed (ambrosia), alleged by many to be the cause, showed that they, too, contained a toxin, which was capable of bringing on hay fever attacks in some German hay fever sufferers, but not in all. An American that Dr. Dunbar was himself able to test, reacted typically to golden rod poison, though he was not usually attacked by hay fever in Germany. Dr. Dunbar found that his grass pollen antitoxin would neutralize that of golden rod without the body, and in consequence he arranged to have his antitoxin tried in America too.

I visited Dr. Dunbar at his institute in Hamburg early in September, and in the course of conversation he told me that the results already reported from America while few were favorable. He expressed himself as being very much pleased with the success of the serum in Germany, and expected the reports from America to be equally encouraging.

Some of the more important grasses tried successfully are:—secale cereale, rye, barley, wheat, tea maize, Indian corn.

Plants giving negative results: Rosa (several species tried), tilia ulmfolio, the linden, artemesia, abainthium, the warmut.

Plants with positive results: Lily of the valley, golden rod (including solidago and ambrosia), ragweed.

OTITIS MEDIA.*

By Dr. G. H. BURNHAM.

Inflammation of the middle ear is now fully recognized as a disease so dangerous, so insidious, so far-reaching in its effects, especially the chronic purulent form, that it must be attended to and stopped, as otherwise a condition most dangerous to the one afflicted will sooner or later show itself.

I shall first mention the form unassociated with discharge, viz.: the chronic catarrhal otitis media. There are two forms, the hypertrophic and hyperplastic. The hypertrophic form of inflammation is a swelling of the lining membrane of the tympanum, and this continuing for a long time results in hypertrophy of the tissue lining the cavity, and often there is a certain amount of secretion. The same change takes place in the drum membrane, in the ossicles, ligaments and Eustachian tubes. Owing to the chronic hyperemia a fluid may collect and remain more or less permanently.

The second is characterized by tissue hyperplasia rather than by hypertrophy. The new tissue is firm and fibrous, the secretion is lessened, the walls of vessels are thickened and a true sclerosis results. The drum may show almost no variation from the normal appearance. The Eustachian tubes show greater patency than usual as there is a shrinking of its lining membrane. The sclerotic process, by its action on the ligaments and muscles, binds the ossicles rapidly together and fixes them firmly in the cavity and thus limits motion. The favorite seat of the process is the oval and round windows. The dense cicatricial tissue bands also aid in lessening the motion of the ossicles to such a degree that the vibrating motion of the labyrinthine fluid is difficult or impossible. That the hyperplastic is often secondary to the hypertrophic form is a doubtful question. In the hypertrophic form heredity is a small factor. It is seldom that any hereditary history of the aural disease is met with without the accompanying lymphatic taint. Labyrinthine complications are not common. The affection is bilateral although both organs are seldom involved to the same degree. The amount of hearing which we naturally have is, it must be understood, greatly in excess of that needed for every day use, and hence considerable impairment may take place unconsciously to quite a marked degree, and also one ear may be decidedly impaired regarding hearing and not noticed as long as the other is unaffected or only slightly so. The impairment is usually at the beginning intermittent, that is sometimes normal and again not, and the intervals gradually become shorter till relief is sought for. In the early stages the removal of affections of the nasal passages or nasopharynx, may avert

* Read at meeting of Ontario Medical Association, Toronto, June, 1903.

the disease. Any progress to a sclerotic change makes the prognosis grave. The Eustachian tubes should be opened and, if needed, treated by injections of vapours, fluids through the catheter or bougies. Inhalations through the nose used at home are often very beneficial. If all treatment fails then an operation for removal of drum, malleus, incus and the division of adhesions about the stapes may be done.

The hyperplastic form may attack one or both ears. Labyrinthine involvement of various degrees may occur at any time. The faces presented by those suffering from this form are often characteristic, showing great mental strain. The prognosis of this form is very grave indeed regarding the integrity of function, and is less amenable to treatment than all other aural diseases. For the tinnitus, dilute hydrobromic acid may be used. The drug, however, the use of which is followed by the best results, is pilocarpine. The manner of administration of this drug advised by many aurists cannot be any true test as to its merits, and leads to its abandonment in cases where, if given properly, it should be continued and a good result obtained. The proper mode is my combined treatment which I always now follow. My great faith in this treatment and my manner of using it have been found in treating diseases of the eye, where the affects produced can be seen and accurately gauged. If inflation, passive motion and like measures cause distress, stop them; if, however, beneficial, continue them.

Of the forms associated with discharge from the ear I shall mention acute catarrhal otitis media. This is an inflammatory condition within the middle ear with increase of secretion. When the lower cavity is the most affected, the secretion is mucous; but when the upper part of the cavity, then it is purulent, for in this latter a large amount of connective tissue is present, which is not in the lower cavity. Hence the name, acute catarrhal, applies to an affection of the lower, and acute purulent to that of the upper. The pain in the catarrhal form is localized and not diffuse, as in inflammation of the external meatus, and more severe than that of the Eustachian tube alone. If in from twelve to twenty-four hours spontaneous rupture of the drum occurs, the pain ceases. If the drum membrane is obtuse and does not yield to the pressure of the fluid, the vault becomes affected and the purulent type supervenes, and if no spontaneous outlet the mastoid cells become affected. In children, especially infants, the disturbance is sometimes very great as convulsions, very high temperature, vomiting, all simulating meningitis. Then the ear discharges and recovery takes place. Severe inflammation of intracranial structures probably never occurs in this type. For the severe pain give an opiate and bleed by leeches placed in front

of the tragus, also apply dry heat, or hot water bag, or Japanese stove. Drop into ear, morphia, atropine, cocaine, or carbolic acid and glycerine, 1 in 20, or adrenalin solution. Being unable to abort in twelve hours or so, incise the drum, and to allow acid to aid the fluid to escape is better than to wait for a spontaneous rupture. Attention to the Eustachian tube by Politzer bag or catheter is advisable.

Acute purulent otitis is indicative of inflammation of the upper cavity of tympanum. The most common causes are acute infective diseases, introduction of fluid into the Eustachian tube as by gargling. When evacuation does not occur spontaneously or at the hand of the surgeon, the fluid may desist the soft tissues of canal for a certain distance along the superior and posterior walls, as in this region the perristum of the canal is directly continuous with membrana flaccida and is but loosely attached to the bony margin of the meatus. This causes swelling of that part and the pus may appear in the posterior auricular region as a fluctuating swelling. This latter occurs especially in children. Cases of this disease are prone to mastoid complication. Examination of cases show that the mastoid is involved before the superior-posterior wall becomes detached. Hence the collection of fluid in this position means mastoid inflammation. In children this pus may make its way on to the outer surface of temporal bone, unless fluid is previously evacuated, and infection of intracranial structures may take place either through the mastoido-squamous suture, which is open for some time after birth, or necrosis of squamous portion, and thus direct infection follow.

The characteristic symptoms are sudden and agonizing pain deep within the ear, rise of temperature and marked constitutional depression; sometimes vertigo, when the disease occurs in children, often ushered in by general convulsions. The high temperature is in marked contrast to that seen in acute catarrhal inflammation. Involvement of mastoid cells may occur often before the appearance of discharge or later. When invasion of one of the large sinuses of the dura mater takes place or from mastoid inflammation, symptoms of pyemic affection occur, and there is a sudden high temperature as 105° or 106°, and equally sudden return to normal or subnormal, sweating and rigor. These changes in temperature are repeated at intervals, and hence it is necessary to have the temperature taken every two hours during the day, and every four at night.

The severe pain must be quickly relieved by bleeding in front of tragus. Do not use opium, as relief must come in a few hours. If no relief, incise. The incision should be above the short process of the malleus, and posterior to it; the knife should cut the cellular tissue within the vault and impinge on

the bony wall, then it is swept back to the periphery of membrane, the deep tissues being divided throughout the entire extent of the incision.

This procedure is not to liberate pus, but to prevent its formation; hence, use every precaution to make the parts aseptic. If incision made later when distinct bulging, then begin incision where the bulging is, and incise tissues in the upper cavity of tympanum so as to liberate the purulent fluid. With occurrence of tenderness over mastoid, use Lister's coil or aural ice-bag, and keep it on for at least thirty-six hours. If at the end of two days, still no amelioration of symptoms, operate upon the mastoid. When an external incision seems to be necessary, do not use Wilde's incision, which is almost obsolete, but incise the bulging of superior-posterior wall of meatus, which is much more effective. The pneumatic cells of the mastoid are located much nearer the superior wall of meatus than to the surface of the mastoid cubex, this incision often relieving tension and prevents extension of the inflammation. Even in children under three years of age the Wilde's incision is not advisable. The rule should be that all operations upon the mastoid should be thorough and performed under an anesthetic.

In the chronic purulent otitis media, there is, as a rule, a certain amount of tissue necrosis. Secondary involvement of the mastoid process is the most grave complication from which patients can suffer. When drainage through the external canal is free, the mastoid is seldom involved, if not, the pus makes its way into the pneumatic spaces of mastoid and otitis is set up. There may also be a chronic proliferatic otitis through which the pneumatic spaces are obliterated, and the whole mastoid becomes dense eburnated bone. In this form there is sometimes marked tenderness, thus simulating an acute inflammation of this process. We must remember that insurance companies continually reject applicants suffering from chronic otorrhea in order to realize how grave a menace to life it is. It often happens in an ear which has discharged since childhood that the flow ceases and the ear remain perfectly dry, save the occasional appearance of an offensive discharge. This symptom is often due to the presence of an aspergillus in the walls of the meatus or tympanum. If unable to stop the discharge by ordinary means, it is felt that the discharge is due to diseased tissue. The course is now to remove the ossicles and curettement of the tympanum. The otitis of the mastoid that often follows suppuration after the latter has been stopped, and which hardens the bone, becomes sometimes intensely painful, the ear being quite healed for a long time. Also in this connection, persistent facial neuralgia of obscure origin, the ear should always be examined.

In cases of intracranial involvement complicating mastoid inflammation, the process is usually confined to the meninges covering the posterior cerebral lobe or cerebellum, when extension takes place through the roof of the tympanum, the contents of the middle central fossa is usually involved. In all operations upon the mastoid it is advisable, first, to remove that cortex close to the posterior wall of the meatus, and then enlarge as much as may be necessary.

Pus in the bony cavity of the mastoid may find exit spontaneously in several ways. (1) Through the external mastoid cortex, either behind the ear or into the external meatus; (2) through the cortex into the digastric fossa; (3) Through the roof of the antrum or the tympanic vault into the middle cranial fossa; (4) into the posterior cranial fossa, usually lymphatic, into the groove lodging the lateral sinus.

If one of the large venous sinuses becomes the seat of an infectious thrombus, the temperature changes are the most characteristic. Local œdema behind the ear is more characteristic of a circumscribed inflammation of the canal than of the mastoid. A condition which should never be forgotten is the occasional rupture of a mastoid abscess upon the internal surface through the digastric fossa. Here the pain is referred to the lateral cervical region, and later on a diffuse brawny swelling is made out beneath the sterno-cleido mastoid. A brain abscess which has remained latent for many years may again become active by an acute exacerbation of the disease within the tympanum and mastoid.

As to the particular plan to be followed in the operation upon the mastoid, the weight of evidence seems to be fully to open all the mastoid cells, so that no infected area may escape observation. Otitic meningitis may occur by extension from caries of the osseous walls, and evacuation of pus into the cranium or by infection through the numerous vessels which perforate the internal plate of the skull. In children it is not an uncommon complication of a suppurative inflammation of the ear.

It is interesting to note that the primary aural affection and the primary sinus thrombosis may cause secondary thrombosis and brain abscesses upon the opposite side. For this reason much uncertainty exists as to the ultimate outcome of any operative procedure described towards the primary seat of affection. Sometimes in cerebral abscess the ophthalmoscope may reveal the presence of an abscess through a choked disc.

We have operations as follows: (1) The membrana tympani alone; (2) operations involving the intratympani soft parts: (3) operations involving the ossicular chain; (4) the operation upon the mastoid; (5) the treatment of the intracranial complications of aural suppuration.

Selected Article.

EVERYDAY AILMENTS AND THEIR TREATMENT.

BRONCHITIS.

In considering the treatment applicable to a case of bronchitis it is necessary to bear in mind the etiology of the disease. In a very small number of instances it may be caused by irritating vapours or solid particles acting directly on the mucous membrane of the bronchial tubes. Perhaps a cold east wind may thus directly excite catarrh in mouth-breathers. In ordinary cases the disease is due to the action of micro-organisms, which possibly exist as harmless saprophytes in the air-passages under conditions of health, and are enabled to become pathogenic by some diminution of the normal resistance of the tissues. It is thus in all probability that a chill is effective in exciting bronchitis. Chronic Bright's disease and lesions of the cardiac valves act as predisposing causes, owing to the defective nutrition of the bronchial mucosa brought about in the one case by poisons in the blood, and in the other by constant passive hyperemia. In other instances the disease is produced as a symptom or complication of an infective disease, such as measles or influenza, either by the direct action of the causal organism or its toxines, or, as above, by facilitating secondary infection, when the resistance of the bronchi is lowered by the infective process.

Pathologically, the first stage of an acute attack of bronchitis is marked by dryness and swelling of the mucous membrane. The lining of the tubes is hyperemic and secretes only a small quantity of tough mucus, which may be streaked with blood. A little later the secretion becomes more free, the cells of the epithelium undergoing mucoid degeneration, while leucocytes tend to escape on to the surface in increasing quantities, giving the expectoration its mucopurulent and even purulent character. In acute cases which recover, the phenomena of inflammation subside as they appeared, and the mucosa regains its normal state. If, however, as the result of repeated attacks or from some defect in resistance the condition becomes chronic, there results a thickening of the submucous tissues, while the overlying epithelium is largely destroyed. Owing to this damage and to the persisting inflammation, a continuance of the secretion is seen, the sputum being copious and mucopurulent. Complete recovery seldom or never occurs when the disease has once reached this stage.

A certain degree of pulmonary emphysema is generally present in chronic cases, being produced by the constant cough, acting upon alveoli which are in many cases deficient in elastic substance as the result of degenerative processes accompanying chronic renal disease or cardiac lesions.

We thus see that the indications for treatment vary considerably in the different stages of the disease. In the early phase, the patient complains of pain or soreness in the chest; the sputum is scanty and brought up with difficulty, while there is often dyspnea from narrowing of the tubes by swelling of the mucosa and adherent plugs of mucus. The physical signs produced are rhonchi of varying pitch, formed as the air passes through constricted portions of the air-ways. Under these circumstances much may be done by supplying the inflamed tubes with warm, moist air, which has a soothing effect and counteracts the distressing sense of dryness in the chest. A steam kettle and a tent-bed often give great relief. Warm fluid food should be given, as swallowing hot drinks has a reflex effect on the bronchi, and aids the expectoration, apparently by increasing the flow of mucus. Dr. Mitchell Bruce advises the use of hot lemonade (home-made) drunk freely. Hot poultices or fomentations to the chest and back are comforting to most patients: in other cases stimulating liniments, such as that containing turpentine and acetic acid, may be preferred. By way of medicine we may give either such a mixture as: Ammonium carbonate, 3 grains; iodide of potassium, 2 or 3 grains; solution of acetate of ammonium, 2 drachms; and camphor-water to 1 ounce: to be taken every four hours. Or, ipecacuanha wine and tincture of squill, of each 10 minims; spirit of nitrous ether, ½ drachm, and chloroform-water to 1 ounce. The effect of iodide of potassium in small doses is to produce a thinning of the bronchial mucus, and it is thus sometimes effective in cases in which the sputum is tough and difficult to bring up. It is well to remember that if it be desired to add this drug to the second of the mixtures given above, it is necessary to add at the same time a little alkali of some sort, such as ammonium carbonate, to neutralize the slight acidity of the nitrous ether.

In old persons there is often a tendency to heart-failure accompanying bronchitis. This may call for the exhibition of stimulants, such as alcohol or strychnine, the latter being administered preferably hypodermically. Or a mixture containing ether and ammonia may be employed, *e.g.*, spirit of ether (sulphuric, not nitrous) 20 minims; sal volatile, ½ drachm; syrup of orange, one drachm; and camphor water to one ounce. This may be given every four hours, and if there is need, a few drops of tincture of digitalis may be added to it.

If the bronchitis continue, and there are cyanosis and signs of engorgement of the right side of the heart, venesection may be needed and often gives great relief, eight or ten ounces of blood being taken from the median basilic or any other convenient vein. Instead of this, if there is any reason to hesitate to bleed, leeches may be applied over the front of the chest, and the hemorrhage encouraged by hot fomentations.

A brisk purgative is often useful at the outset of a case of acute bronchitis. Carlsbad salts or a Seidlitz powder may be used, with or without a preliminary dose of calomel ($2\frac{1}{2}$ or 3 grains). The use of sedatives, such as opium or morphia, is not to be recommended in bronchitis, since not only do they reduce the sensitiveness of the bronchial mucous membrane and thus prevent the irritation which is the basis of cough and so of the necessary expulsion of mucus, but the secretion from these surfaces is diminished in amount and rendered more viscid, so that it is brought up with greater difficulty, while the respiratory centre in the medulla is depressed, and any tendency to asphyxia aggravated. Hence any sedative drugs must be given with caution, and only in suitable cases. Any lividity or sign of respiratory failure is an absolute contra-indication. Probably the only condition in which an opiate linctus is permissible is when there is an irritable, dry cough, which is not effectual in bringing up any sputum and which prevents sleep. If the patient is robust, the heart working well, and respiration not embarrassed, a few drops of the liquor morphine may be permissible, or we may employ instead the morphine-derivative, heroin, in doses of $\frac{1}{16}$th to $\frac{1}{10}$th grain. As a general rule we may, however, recall the ancient tip that morphia is to be avoided in the "Three B's"—Bright's disease, bronchitis and babies.

In young children the course of treatment may be on the same lines as have been sketched above, but it is generally better not to employ poultices to the front of the chest owing to the softness of the ribs, and the necessity of avoiding any impediment to the respiration in the form either of weight or constriction. A light jacket of cotton-wool may be used instead, the chest being well rubbed back and front with a liniment of turpentine and acetic acid of half the strength of the official preparation. An emetic is sometimes useful in clearing away the mucus from the air-passages, if there is much cyanosis and labour in breathing; but it is not usually called for, and it must be remembered that a depressant like ipecacuanha, the usual emetic, is to be avoided if possible.

The danger in bronchitis, unlike that in croupous pneumonia, is rather the mechanical blockage of the bronchial tubes with mucus, whereby the entry of air is impeded, than a toxemia

due to infective organisms. The patients often tend to lie propped up in one position, without change of posture, and may in bad cases sink into a drowsy condition, so that the mucus tends to accumulate in the lower air-passages and to leave portions of the lung imperfectly expanded and aerated. For this reason, as has been pointed out by Bruce, the process of making a patient sit up in bed for percussion and auscultation is often beneficial, and we need not hesitate to make a daily physical examination of the bases of the lungs, although it may cause coughing. This is really an advantage, and the patient's ultimate good should be thought of rather than his immediate comfort.

As the case progresses, the sputum becomes looser, and the poultices to the chest may soon be left off. If a stimulating liniment have been used, it may be persevered with during the second stage of the disease; but it is well not to pass directly from poultices or fomentations to a liniment, as the skin may be unduly tender at first after the moist applications. The steam kettle may next be dispensed with, and then the tent gradually removed, the curtains being first looped up, if the weather be cold, before the whole is dispensed with.

By continued use of an expectorant or alkaline mixture exudation into the bronchi can be kept up indefinitely. It is necessary, therefore, during convalescence to discontinue the use of such medicines, and the disappearance of moist sounds from the chest may be accelerated by administering an acid tonic, such as dilute nitro-hydrochloric acid, 10 minims; tincture of nux vomica, 5 minims; spirit of chloroform, 10 minims; and compound infusion of gentian to 1 ounce; to be taken three times a day after meals. Or, tincture of cinchona, 20 minims; dilute nitric acid, 10 minims; syrup of orange, 1 drachm; and chloroform-water to 1 ounce, may be substituted. In some cases quinine may be useful, in others some form of iron-preparation is indicated. In children a course of the compound syrup of the phosphate of iron is often useful, or malt-extract and cod-liver oil may be employed.

CHRONIC BRONCHITIS.

When bronchitis has become chronic, the condition of the air-passages is no longer susceptible of complete *restitutio ad integrum*. A certain amount of damage to the mucous membrane will remain in any case, and act as a predisposing cause of subsequent attacks. Some secretion exudes almost continually, and on the slightest provocation a subacute bronchitis is lighted up. The expectoration is usually muco-purulent, and often reaches a large amount. Some degree of emphysema is

almost invariably present in addition. Unless a more than usually acute exacerbation occur, there is little need of expectorants; but should such an acute attack occur, it must be treated as sketched above. Otherwise most may be done for these patients by attending to the general health. If circumstances permit, it is desirable for these sufferers to winter in a warm climate, so as to avoid the cold and damp of this country. Needless to say they should not return too soon in the spring, which is often more inclement than the nominal winter. The appetite must be encouraged, and cod-liver oil and preparations of malt are as suitable for these patients in many cases as for the tubercular.

No special limitations as to diet are necessary in these cases, as a rule, any good nourishing form of food being permissible. It is well to remember, however, that in a certain proportion of cases of bronchitis there is a gouty factor, and that in such instances an "anti-gouty" regimen must be adopted, a mixture containing bicarbonate of potassium and a little iodide of potassium, with sulphate of magnesia to regulate the bowels, sometimes acting very beneficially on the bronchial condition.

Owing to the frequent co-existence of chronic renal disease with chronic bronchitis, it is well to make a point of examining the urine for albumen and casts in all these cases.—*The Practitioner.*

Progress of Medical Science.

MEDICINE.

IN CHARGE OF W. H. B. AIKINS, H. J. HAMILTON AND T. A. CLARKSON.

Theocine as a Diuretic.

Prof. Minkowski was the first to experiment with and recommend this new remedy. Kossel in 1888 obtained from the extract of tea an alkaloid called Theophyllin. Doctor Gino Norsa, of the University of Perugia, has followed up the experiments of Minkowski, administering Theocine to twelve patients, suffering from mitral and other heart lesions, etc. His results are most elaborately given and he comes to the conclusion that this new remedy is a most powerful diuretic, rapid in its action, quickly eliminated from the system. It lessens the frequency of the pulse. He did not find any benefit from its use in nephritis and pleurisy. From his observations he is of the opinion that Theocine exerts a very slight effect on the heart, but a most remarkable effect on the kidneys, especially on their vasomotor elements, and without any ill results.—Translated by Harley Smith.

On the Transmissibility of the Pneumococcus from Mother to Foetus.

Pregnancy in women suffering from lobar pneumonia is interrupted in about half the cases (Bowlay). The fœtus generally dies before the mother. We have not yet found the cause of the abortion. In spite of positive observations showing passage of the infection from mother to fœtus, observations to the contrary effect have also been made. Thorner saw an infant that died thirty-three hours after birth, the mother having septic infection. Autopsy of the baby revealed bilateral pneumonitis, with cocci and diplococci in the hepatized portions. Foa and Bordoni Uffreduzzi made similar observations, as also Marchand, Levy, Hecher, Carbonelli and Ferrari. Dr. Caporali of the University of Naples, experimented with five rabbits, two of which were fifteen days pregnant, and the others were near the end of pregnancy. He injected a very virulent culture of pneumococcus subcutaneously. The rabbits died in from one to four days, according to the doses given. The results obtained were negative. The pneumococcus was not found in the blood, placenta or the organs on cultural examination or on histological examination of the different

tissues. These results show that the passage of the pneumococcus from the mother to fœtus must be infrequent. (Similarily Sanchez Toledo and Olimpio Cozzolino found, in their investigations, that the passage of the tubercular bacillus from mother to fœtus is quite exceptional, contrary to the views of many.) One obstacle to such transmission must be in the placenta. Death took place not owing to the passing of the pneumococcus from mother to fœtus, but owing to various circumstances observed in infection, namely, the change in the chemical quality of the blood, the toxic products elaborated by the bacteria and accumulated in the blood, and the lowering of the maternal blood pressure (Charrin).—Translated by HARLEY SMITH.

The Stomach in Migraine and Epilepsy.

Mangelsdorf (*Berliner Klinische Wochenschrift*) found the stomach much enlarged during attacks of epilepsy and migraine gradually producing permanent atony. He found that treatment of the gastric condition had a favorable influence on the attacks of migraine. The stomach enlarges regularly in all directions during the seizures, and becomes more or less normal in the interval.

Etiology of Rheumatism.

In the *British Medical Journal* of September 19th, 1903, Dr. Ainley Walker and Mr. Ryffel report a series of interesting experiments which throw some light upon the cause of rheumatism and explain some of its manifestations. They found that the "micrococcus rheumaticus" produces formic acid in very considerable quantities and that this acid is not only present in the filtered cultures of the organism, but it can also be extracted from the bacteria themselves. They also succeeded in obtaining formic acid from the tissues of a rabbit suffering from acute arthritis due to the inoculation of this micro-organism.

They state, too, that while in normal urine, formic acid is absent, in the urine of rheumatics it can be demonstrated. Probably the formic acid originates in the body from the oxidation of sarcolactic acid.

Furthermore they added two other facts of much importance. The micrococcus rheumaticus has a hemolytic action upon red blood corpuscles greater and more rapid than that of any streptococcus which they have yet examined. This will account for the rapid anemia of acute rheumatism. They succeeded also in isolating an albumose from cultures of the organism grown in albuminous fluids. On injection into rabbits and guinea pigs this rapidly produced pyrexia.

These experiments would explain the reason of the success of the old alkaline treatment in acute rheumatism, and would throw some light, at any rate, upon the specific action of the salicylates.

The Etiology of Diabetes.

The question of the orgin of the sugar in the urine in this disease has perplexed investigators for some time, but at last Cohnheim, as the result of much work, has offered a very simple solution. It has long been known that the islands of Langerhans are chiefly affected in diabetes, and probably they are responsible for the internal secretion of the pancreas. Herter produced glycosuria by painting the surface of the pancreas with suprarenal extract and other reducing agents. It was well known, too, that the muscles were the seat of the oxidation of sugar, which is the chief source of heat and energy. But it remained for the genius of O. Cohnheim to connect these two series of facts. Although neither an extract of pancreas, nor of muscle (made by expressing the juices of the cells with a powerful press), possessed any glycolytic action, yet a combination of the two was able to destroy sugar rapidly, and in time completely.

It would appear from this experiment that the islands of Langerhans elaborate a pro-ferment which, passing in the blood to the muscles, meets there another pro-ferment, with which it unites to form a sugar-destroying ferment. This reminds one of the way in which the trypsinogen of the pancreas unites with the enterokinase of the intestine to form trypsin, and of the manner in which complement and intermediary bodies combine in bacteriolytic serum.

These facts would point to an absence or deficiency of the internal secretion of the pancreas as the cause of diabetes.

A Review of Some Recent Investigations Relating to the Pancreas.

T. S. Hart, New York *Medical News*, quotes Bayliss and Sterling. The secretion of the pancreatic juice is normally evoked by the entrance of acid chyme into the duodenum, and it is proportional to the amount of acid entering (Pawlow). This secretion does not depend on a nervous reflex, and occurs when all nervous connections of the intestine are destroyed.

Contact of the acid with the epithelial cells of the duodenum causes in them the production of a body (secretin) which is absorbed from the cells by the blood current, and is carried to the pancreas, where it acts as a specific stimulus to the pancreatic cells, exciting a secretion of pancreatic juice proportional to the amount of secretin present.

This substance, secretin, is produced probably by a process of hydrolysis from a precursor present in the cells which is insoluble in water and alkalies, and is not destroyed by boiling alcohol.

Secretin is not a ferment.

The pancreatic juice obtained by secretin injection has no action on proteids until "enterokinase" is added; the action on fats is increased by the addition of succus entericus. It is, in fact, normal pancreatic juice.

Secretin rapidly disappears from the tissues, but cannot be detected in any of the secretions.

It is not possible to obtain a body resembling secretion from any tissues of the body other than the mucous membrane of the duodenum and jejunum.

Secretin solutions, free from bile salts, cause some increase in the secretion of bile. They have no action on other glands.

Acid extracts of the mucous membrane normally contain a body which causes a fall of pressure. This body is not secretin, and the latter may be prepared free from the depressor substance by acting on desquamated epithelial calls with acid.

There is some evidence of a specific localized action of the vasodilator substances which may be extracted from various tissues.

Oatmeal in Diabetes.

Von Noorden (*Berliner Klinische Wochenschrift*) finds that it is possible on a diet of oatmeal to lessen the quantity of sugar in the urine, and also the acetone bodies. The porridge is made by thoroughly cooking 250 gm. oatmeal or rolled oats with 300 gm. butter and 100 gm. albumin, in the form of vegetable albumin, or the white of an egg may be added after the porridge is partly cooked. This is sufficient for 24 hours' nourishment, and is given every two hours. He allows at the same time a little wine, brandy, or strong coffee. This diet is especially useful in those cases which fail to derive any benefit from the ordinary diabetic foods. After a few weeks' successful trial with this the patient can gradually substitute other articles, but must always retain a proportion of the porridge. Von Noorden reports great success from a year's experience, finding the acetone vanish in a few days, and the sugar always very low.

OBSTETRICS AND GYNECOLOGY.

IN CHARGE OF ADAM H. WRIGHT, K. C. McILWRAITH, FRED. FENTON AND HELEN MacMURCHY.

Marginal Placenta Previa with Prolapse of the Cord.

Dr. W. E. Fothergill reports in the *Practitioner* (English), November, an interesting case of marginal placenta previa with prolapse of the cord. The placenta was "battledore," and the cord was inserted into that part of the margin of the placenta which was nearest to the os uteri. Owing to the position of part of the placenta and of the cord within the lower uterine segment the head was unable to engage, and this doubtless saved the child's life by preventing compression of the cord. The classical treatment by reposition of the cord was impossible. The writer quickly completed the dilatation of the cervix with the hand, applied the axis traction forceps without waiting for the head to engage, and delivered the child quickly enough to avoid fatal compression of the cord. It at once cried lustily.

NOTE.—I give this synopsis of report with full text as to treatment simply to sound a note of warning. The ordinary physician might suppose that such treatment carried out by an obstetrician like Fothergill, and apparently endorsed by a journal like the *Practitioner*, was, as a matter of course, proper under the circumstances. It should be remembered, however, that rapid dilatation of the cervix with the hand in any form of placenta previa is fraught with grave danger to the life of the mother. For this reason I believe the procedure is never justifiable. Last year one of the most careful and able physicians in Toronto, in his efforts to extract a child too quickly, caused a rupture of the lower segment of the uterus, which resulted in the death of his patient. Dr. Whitridge Williams, of Baltimore, recently reported a case where he caused rupture of the uterus during manual dilatation of the uterus, although he used very little force. The cervix uteri is a very uncertain quantity when the placenta is previa. It is generally soft and dilatable early in labour, but strictures and rigidity frequently exist (in about twelve per cent. of the cases, according to Müller.) In either condition rupture is apt to occur, and a tear of the cervix may very readily extend through the thin lower segment which is more or less weakened through the unnatural implantation of the placenta on unsuitable soil. Is the rationale of Braxton Hicks' method less understood in England than in most of other countries?

A. H. W.

Saline Infusions in the Treatment of Puerperal Eclampsia.

Sir,—In the *British Medical Journal* of November 7th, page 1211, Dr. Lithgow states that he "injected underneath the skin of the abdomen about two pints of a saline solution (common salt ℥j, potassium carbonate ℥j), as recommended by Jardine." Allow me to point out that I have never recommended such a solution. The solution I first used was one of ½ drachm each of bicarbonate of potash and common salt to the pint, but I soon gave it up, and now use a drachm each of acetate of soda and common salt to the pint. Potash salts when injected directly into the blood are powerful cardiac poisons. When used subcutaneously they do not seem to act in this way, at least I never found it so with the doses I used, but to obviate any risk of this I substituted the soda salt. The soda salts are non-poisonous and the solution can be injected directly into a vein, a proceeding which I adopt in cases which allow of bloodletting. I am, etc.,

ROBERT JARDINE.

The Significance of Urinalysis in Pregnancy.

In a series of nearly 1,800 urinalyses made during the past two years, a considerable number of the examinations were in the cases of women in the later stages of pregnancy. Of the entire number of specimens of urine obtained from parturient women, only a comparatively small percentage (22 per cent.) was entirely free from albumin and sugar; while in no case in which glucose was noted was albumin absent. In nearly 60 per cent. at least a trace of albumin could be detected. In many of the cases the albuminuria began to manifest itself about the fifth month. In some it was not present until the last days before delivery. In a few it became evident directly before the appearance of active labor pains, its presence being discovered, at times, only by accident, if the term may be fairly employed.

When glucose appeared in the urine of a subject known to have not previously shown glycosuria, the occurrence, as a rule, took place at some time between the beginning and the end of the last month of pregnancy. Occasionally there was a trace of glucose present throughout the pregnancy, often disappearing completely after the birth of the child.

In no case in which, in the absence of other indications of acute or permanent renal change, small quantities of either serum albumin or glucose (not evident previously) were found present during pregnancy, did the urine fail to regain its normal character shortly after the birth of the child, except in the few cases in which fatal eclampsia supervened.

In the majority of cases the urea elimination was that of the

normal woman under ordinary circumstances other than those of childbearing. Its excretion varied with the individual, and especially in relation to the diet and exercise. Occasionally the quantity excreted appeared persistently high, and just as often exceedingly low; but with no evident bearing upon the otherwise normal outcome of the case.

When the microscopic sediment indicated positive renal change, the beginning of this change almost invariably appeared to have antedated the pregnancy, and as a rule continued after the puerperium as a permanent condition. Exceptions were noted even to this rule, however.

What dependence can be placed upon urinalysis as a warning against impending eclampsia?

The following case is interesting in that it presents the picture of a urine, absolutely normal on the evening prior to the beginning of labor; a total absence of a history of nephritis, and yet a series of convulsions beginning while the fetal head was on the pelvic floor, and continuing into the postpartum stage after an instrumental delivery. The following presents merely an outline of the case:

Mrs. J. F. E., aged 26 years, family history negative. One child living and well, forceps delivery, after a long but otherwise uneventful labor. Seen for the first time by the writer on March 14th, 1903, at which time the patient considered herself six months pregnant. The abdomen was very large, but the patient stated that this was also true of the first pregnancy. The right leg was swollen, also the right labium, the veins of which and of the right vaginal wall were swollen and tortuous. This condition was greatly relieved in the recumbent posture, and was evidently due to pressure in the abdominal cavity. The vertex was distinctly felt on vaginal examination, approximately in the L. O. A. position. Pelvic measurements were all normal.

The urine at that time was examined and showed: A. M., 10.10, acid, amber, clear, sediment scanty, white, flocculent; albumin faint trace, sugar none; urea 1.22 gms. per 100 cc. microscopically, full of squamous cells, no renal sediment, few leukocytes, no crystals. P. M., 10.20, acid, etc., albumin faint trace, sugar none, urea 2.80 gms., no renal sediment, full of squamous cells

From this time until May 18th inclusive, the urine was examined weekly. On the latter date both the morning and evening specimens were examined. At no time during this period could albumin or sugar be detected. No casts, and no renal epithelium was present. The urea averaged 2 gms. per 100 cc., and on the last examination before labor began was 2.18 gms. On May 19th the writer was called because of

colicky pains over the abdomen. There was some headache, and it was learned that the bowels had not been moved for two days. At this time the patient was supposed to be about one month from term, but the abdomen appeared so large that oncoming labor was suspected and the vaginal examination showed the cervix already dilating. After a long, slow labor of twelve hours the vertex was on the perineum. Convulsions suddeuly supervened, following the second of which forceps delivery was carried out with the assistance of Dr. W. A. N. Dorland, and without injury to mother or child. The placenta was at once delivered with the hand in the uterus. An hour later a third convulsion took place, followed by a fourth, fifth and sixth. The urine drawn by catheter showed the following: 10.12, acid, strong odor of decomposition; albumin 1 gm. per liter, sugar none; urea 1.18 gms. per 100 cc., considerable number of hyaline and hyalogranular casts, no blood, considerable renal epithelium.

The patient was bled, and then transfused into a vein with normal salt solution. She was then kept in a steam bath almost continuously for six hours, when the kidneys again began to take up their share of the work. Consciousness was not regained for thirty-six hours, though no convulsions occurred after transfusion.

The urine rapidly cleared up, until at the present time it is perfectly normal, and the patient is free from evident impairment of the renal functions, and with no recollection of the ordeal.

Dr. Dorland has informed the writer of a case of eclampsia recently seen by him in which the urine was examined immediately before labor, and found to be normal, but in which convulsions appeared and death ensued before morning.

We have studied cases which have presented urinary pictures of seemingly grave import, but in which labor has followed a normal course; and, on the other hand, cases of dangerously obstinate and even fatal eclampsia occurring in spite of kidneys which, up to the moment of labor, were supposedly healthy. As a result of our study we are confronted with the question, Can eclampsia be accurately foreseen and avoided by the careful attendant upon the case; and, does albuminuria or even a renal sediment predict with any degree of accuracy parturient or puerperal eclampsia. By way of answer the following conclusions seem warranted at the present time:

1. Careful urinalyses should be carried out in all in cases of pregnancy at frequent intervals and with increased frequency as term is approached.

2. The most dependable indications of impaired renal function, and of probable eclampsia, have been shown by general

experience to be the presence of decided quantities of serum albumin, the diminution of the eliminated urea and the presence of a microscopical renal sediment (casts, renal epithelium, blood, etc.). The character of the latter, when accompanied by the well-known clinical signs of nephritis, always constitutes a working basis for an estimate of the probability of imminent danger.

3. Even if the urine appear perfectly normal the possibility of eclampsia must be considered, especially in young women. Eclampsia in such cases is of equal severity with that of cases in which the urine has given due warning of impaired renal functions.

4. When eclampsia supervenes upon labor in a subject with previously (apparently) healthy kidneys, the tendency subsequently is toward a return to normal renal functions if the patient survives. This circumstance would seem to indicate still more strongly that the kidneys may actually have been normal up to the time of a temporary embarrassment and suspension of function.

5. Although we fail to find in urinalysis an unerring indication of the behaviour of the case, it is a safeguard we can ill afford to neglect. Until the nature and pathogenesis of uremia and eclampsia are more thoroughly understood it would appear to be our best guide to safe treatment and accurate prognosis.

6. The prognosis seems to be vastly improved if eclampsia be combated by generous bleeding, followed by venous transfusion with normal salt solution. These measures reduce and dilute the poison in the circulation and relieve the cardiac distress. Free diaphoresis and purging are of course indicated.

[From a paper presented before the Philadelphia County Medical Society, by Dr. R. N. Willson.]

Ophthalmia Neonatorum—Chorionepithelioma.

Two very interesting discussions have been held in the London Obstetrical Society lately, reports of which have come to hand in the *British Medical* and other journals, one on Ophthalmia Neonatorum and one on Chorionepithelioma.

The discussion on the former subject was opened by Mr. Sydney Stephenson, who remarked that this disease was the cause of more blindness than any other local disease of the eyes, excepting atrophy of the optic nerve, amounting to 10 per cent. of cases of blindness. Of forty-eight cases gonococci were demonstrated in 60.17 per cent. Infection from this organism might come about in three places: (1) In the maternal passages either before or during the act of birth; (2) almost immediately after birth; or (3) one or several days after birth. The second was by far the most common mode of infection, but

cases were cited to show that rarely the eyes might become infected *in utero*. The author advocated the instillation of 2 per cent. nitrate of silver (Credé's method) as the best prophylactic, though acknowledging that it nearly always caused slight catarrhal conjunctivitis. Solutions of protargol and corrosive sublimate were good, but inferior to the silver nitrate. In these opinions there was a very general concurrence, though some of the members admitted that they did in private practice. Many of them used bichloride solutions.

We have had experience with 2 per cent. silver nitrate and 20 per cent. protargol, and agree with the conclusions of Dr. Stephenson entirely. The sublimate we have not used, as more than one of our opthalmia surgeons consider it injurious to the cornea, even in very dilute solutions.

Chorionepithelioma or deciduoma malignum as it is, perhaps more commonly called, is an affection to which much attention has been directed in the last few years. The paper presented to the society on June 3rd last by Dr. J. H. Teacher, of the University of Glasgow, is a very able presentation of our present knowledge of the question. The author gives unreserved adherence to Marchand's view, which he says is accepted by almost everyone on the continent. The discussion of the paper developed the fact that this view was much more generally accepted in England than when the Society last discussed the question in 1896, under the leadership of the late Professor Kantback.

Briefly stated the conclusions are as follows:

(1) Chorionepithelioma is a malignant tumor of the uterus arising in connection with confinement, abortion, or hydatidiform mole. Microscopically its most typical elements are: (*a*) Small, well-defined polyhedral cells, with large vesicular nuclei closely packed together in masses without any connective tissue stroma between them; (*b*) large multi-nucleated irregular masses of protoplasm (plamodia or syncytia) in which no definite boundaries are recognizable; (*c*) large cells, sometimes mono-nucleated, sometimes multi-nucleated, some of which presents a resemblance to decidua cells, while others are identical in character with the multi-nucleated giant cells which occur in the decidua serotina. These are, in some parts, arranged in cell masses without intervening tissue stroma, in other parts they are infiltrating and destroying adjacent tissues after the manner of sarcomata.

(2) Langhan's layer of cells and the syncytium of the chorionic velli are both of fetal epiblastic origin, and capable of being transformed into one another. The tumor has its origin from both these layers, and not from the decidua.

(3) The connection with hydatidiform mole is very close. In regard to prognosis it is :

(4) Grave in all cases, but early recognition and early radical operation offer a fair chance of recovery. The fact that metastaris has occurred does not necessarily preclude successful operation, although it materially diminishes the prospects of success.

The paper is extremely interesting and well repays a careful study. K. C. M.

The Condition of the Pelvis in Women on whom Symphyseotomy has been Performed.

Tissier read notes on the after-histories of twenty women who had been delivered by symphyseotomy during the period 1898–1903, February 3rd. These cases were operated on at seven different hospitals. Only four out of the twenty escaped without some undesirable sequela, the remaining sixteen being all more or less damaged by the operation. One patient is a chronic invalid (5 years). Eight have suffered from phlebitis. Ten have had urinary troubles during months or years, incontinence of urine being the most common urinary affection. As a rule it improves with time, but reappears on exertion or with a coughing effort. A number of women (number not stated) have difficulty in efforts of lifting, or in going up stairs.—*Bulletin de la Société D'Obstetrique de Paris*, reported in the *Journal of Obstetrics and Gynecology* of the British Empire.

K. C. M.

OPHTHALMOLOGY AND OTOLOGY.

IN CHARGE OF J. T. DUNCAN.

School Children and Diseases of the Eye and Ear.

A systematic examination of the scholars attending the Chicago schools showed that 32 per cent. of the boys and 37 per cent. of the girls had defective vision. The Board, therefore, recommended that the eye and ear of every pupil be examined once a year by the teachers. The plan is simple and easily carried out in about five minutes' time. The teacher asks ten questions, the answers to which enable him to discover if a defect exists. If so, the parents receive a card of warning.

PLAN OF EXAMINATION.

The necessary material simply consists in the testing charts and the warning cards for parents.

The charts are made of pasteboard, partially broken at the lower third. Above the broken line are letters of various sizes, below are the directions for testing, which are as follows:

"Do not expose the card except when in use, as children may learn the letters by heart."

First grade children need not be examined. The examination should be made singly in a separate room.

Children already wearing glasses should be treated with such glasses properly adjusted on the face.

Ascertain if the pupil habitually suffers from inflamed lids or eyes.

Place the testing card on the wall in a good light; do not allow the face of the card to be covered with glass.

The line marked xx (20) should be seen at 20 feet, therefore place the pupil twenty feet from the card.

Each eye should be examined separately.

Hold a card over one eye while the other is being examined. Do not press upon the covered eye, as the pressure might induce an incorrect examination.

Have the pupil begin at the top of the test card and read aloud as far as he can, first with one eye and then with the other.

If the pupil does not habitually suffer from inflamed lids or eyes, or can read a *majority* of the xx (20) test type with each eye, and does not, upon inquiry, complain of *habitually* tired, painful eyes and headache after study, his eyes may be considered satisfactory. But, if he habitually suffers from inflamed lids or eyes, or cannot read a *majority* of the xx (20) test type with both eyes, or habitually complains of tired or painful eyes or headache after study, a card of information should be sent to the parent or guardian.

Facts to be Ascertained.

1. Does the pupil habitually suffer from inflamed lids or eyes?
2. Does the pupil fail to read a majority of the letters in the number xx (20) line of the Snellen's Test Types, with either eye?
3. Do the eyes and head habitually grow weary and painful after study?
4. Is the pupil probably "cross-eyed?"
5. Does the pupil complain of earache in either ear?
6. Does matter (pus) or a foul odor proceed from either ear?
7. Does the pupil fail to hear an ordinary voice at twenty feet in a quiet room?
8. Does the pupil fail to hear the tick of a good-sized watch at three feet with either ear in a quiet room?

9. Does the pupil fail to breathe properly through either nostril?

10. Is the pupil an habitual "mouth-breather?"

If an affirmative answer is found to *any* of these questions, the pupil should be given a card or letter of warning to be handed to the parent, which should read something like this:—

Dear Sir:

After due consideration it is believed that your child has some eye-ear disease, for which your family physician or a physician who makes a specialty of diseases of the eye or ear should be consulted.

It is earnestly requested that this matter be not neglected, as children with eye-ear diseases cannot attain the best results in school.

Respectfully,

.....

Principal.....School.

Either the word "eye" or "ear" may here be crossed out as may be appropriate for the case. If the pupil has presumably both an eye and ear disease, *both* words may be left and the space between the words "eye" and "ear" should be filled in with the word "and."

It will be observed that these cards are non-obligatory in their nature. They do not require anything of the parent, who is at perfect liberty to take notice of the warning card or not, as he sees fit. They simply warn the parent that a probable eye or ear disease exists, thus placing the responsibility upon the parent.

It is urged that records of the tests should be kept on file in the various schools and that the tests should be made of *all pupils every October.—Canada Med. Rec.*

Degenerate Ocular Cases Resulting from Consanguinity.

L. W. DEAN (*The American Journal of Ophthalmology*) remarks that if there is a perfect parent stock, and if the offspring are perfect, there can be no bad results from consanguineous marriage. If, on the other hand, there is in a family some hereditary taint, the consanguineous marriage of the first degree simply doubles the tendency for the development of the hereditary conditions. Such a condition may have been latent for generations and the marriage of first cousins has so doubled the tendency that several of the children will show the same degenerate conditions. Illustrative cases in regard to the eyes:

CASE 1.—Male, age 17. Parents, grandparents, uncles and aunts had no serious eye trouble. Has three sisters—Bessie,

age 15, who is partially blind; Effie, age 9, has good vision, and Grace, age 4, who is blind. In this family, then, there are four children, three of whom are partially or totally blind. He has three cousins, all in the same family; two of them are partially blind. The parents in both families were first cousins.

CASE 2.—A family of six children. The parents were first cousins. Two of the children had good vision, four were partially blind.

CASE 3.—Parents are perfectly healthy, but are first cousins. Of the four children, one is an idiot, and another very simple-minded. One of the eyes was very small, with coloboma of the iris and choroid. The other eye was not to be seen, but was ultimately felt in the apex of the orbit. It was removed, and examined, no trace of the lens or retina being found.

Other cases were cited.

In discussion, Dr. Vail reported the case of two families, the parents being cousins. Out of the seven children, five had congenital cataract. Continuing the discussion, Dr. Alt reported congenital cataract in two children out of four in a family where the parents were first cousins. In Southern Illinois is a large family who have intermarried for a long period. There is a large number of cases of cataract in the family, both senile and congenital.

Mydriatics in Refraction of Presbyopes.

O. A. GRIFFIN (*American Journal of Ophthalmology*) remarks that the statement, frequently made, that it is not necessary to correct the smaller degrees of astigmatism in presbyopics, is incorrect. If it is necessary to correct an ametropia at all, it is necessary to do it completely, thus relieving all strain. He quotes several cases from his own experience where glasses ordered without a mydriatic did not give the patient comfort. Mydriatics were then used, thus unmasking the smaller degrees of astigmatism, and the patients were then completely relieved. In the discussion which followed, the ophthalmologists present were by no means unanimous in their views; two holding that the use of a mydriatic in a patient over the age of 45 is useless, three holding that mydriatics should be used in most of presbyopia cases. Dr. Griffin, in closing the discussion stated that the correction of one-quarter to one-half diopter of astigmatism is necessary to give comfort to many patients. Often this amount of astigmatism cannot be discovered without a mydriatic. Therefore, in presbyopes with such an amount, it is justifiable to use a mydriatic. Where the correction of one-quarter diopter gives an aged person comfort, which lasts for years, it can not be due to imagination.

LARYNGOLOGY AND RHINOLOGY.

IN CHARGE OF J. PRICE-BROWN.

A Case of Paraffin Injection into the Nose followed immediately by Blindness from Embolism of the Central Artery of the Retina—(HURD, L. M., *Medical Record*, July 11, 1903.)

In this case paraffin was injected beneath the skin of the nose on three different occasions. The third time a mixture of paraffin and white vaseline was injected at a temperature of 110° F., the direction being from below upwards. At the moment of injection, the patient rubbed his right eye, and stated that he could not see. A little later ecchymosis appeared about the tip of the nose, indicating that a vein had been punctured. The eye was examined twenty-five minutes after the injection, when it was discovered that the inferior branch of the central artery of the retina was empty and collapsed. Medical treatment and massage of the eyeball were resorted to, but no return of vision followed.

Trepanation of the Maxillary Sinus by way of the Inferior Meatus—(VAQUIER, *Archives Internationales de Laryngologie*, July-August, 1903).

The author recommends Eschat's modification of Claoue's method. He removes the anterior portion of the lower turbinate, and by means of a burr of eight to twelve millimetres, driven by an electro-motor, the cavity is entered. The opening is then enlarged by cutting forceps. The sinus is next curetted and treated antiseptically. Cure is said to take place in one or two months.

Tertiary Lesions in the Naso-pharynx—(DIEN, *Revue Hebdomad. de Laryng.*, September 19, 1903.)

The writer divides gummata in the naso-pharynx into two classes. First, those beginning in the periosteum, etc.; second, those beginning in the mucosa; and it is the latter class that he deals with in his paper. The principal symptoms after the disease becomes well marked are nasal obstruction, more or less deafness, usually unilateral, dysphagia and headache. The intensity of each symptom varies with the position of the gumma and the extent of ulceration.

By the use of the rhinoscopic mirror, a gumma may require to be differentiated from naso-pharyngeal fibroma, sarcoma, tuberculous abscess, cyst of the vault, and acute adenoiditis.

Fibroma and sarcoma both may occur early in life, a period when tertiary syphilis is rare. Fibroma is often extremely hard and bleeds readily. Sarcoma grows quickly and also

bleeds readily. Often the diagnosis from these two can only be settled by antisyphilitic treatment. In syphilis, however bleeding is rare.

Tuberculous abscess is distinguished by its extreme pallor. A cyst can be diagnosed by palpation. From adenoiditis, syphilis is distinguished by lack of fever. The pharyngeal tonsil is red and covered with muco-pus.

When ulceration of the gumma commences, it is usually gradual, the edges are slightly swollen and punched out with rounded outlines, while the surrounding area is normal in appearance. Treatment must be by antisyphilitic medication, and to be successful should be commenced early and continued for a prolonged period.

Contribution to the Study of Acquired and Congenital Perforations of the Soft Palate—(BROECKAERT, *La Presse Oto-Laryngologique Belge*, September, 1902.)

In a study of the etiology of these perforations, reference is made to eleven cases of congenital symmetrical perforation of the anterior pillars of the fauces; also to several instances of unilateral perforation; and to a less number in which the posterior pillars were alone involved.

Congenital anomalies of this nature, although usually symmetrical, are not necessarily so. The writer also believes that these perforations are not due to arrest of development, but to defect in formation, having its origin probably in vascular lesion.

Non-congenital cases, although few in number, have a varied etiology, and are always unilateral. They may be due to peritonsillar abscess, or to necrosis from the action of toxins—the sequel of scarlatina, typhoid, diphtheria, syphilis or tubercle.

In one case, Monro's, bacteriological examination showed the destruction of tissue to be due to the pneumococcus. In another case, the result of scarlatina, the perforation of the left anterior pillar was accompanied by paralysis of the left side of the palate and complete nerve deafness. (The abstractor has had two cases of perforation of the soft palate, internal to the posterior pillar, each being the result of gumma in tertiary syphilis. One occurred in a man aged 45, the other in a woman aged 38 years.)

Preliminary Note on the Treatment of Lupus of the Upper Respiratory Tract by Rhadium—(DELSAUX, *La Presse Oto-Laryngologique Belge*, August, 1903.)

"A small bulb, hermetically sealed, containing 20 milligrammes of bromide of rhadium was fastened to a metal collar. When screwed to the extremity of a straight or curved metal

stem with a handle, this formed an instrument for introduction into the nose and throat."

Each application was limited to one minute, gradually increasing to five. The first effect observed was anemia of the diseased surface adjacent to the bulb, the patient feeling a slight sensation of constriction. After the sixth application edema of the epiglottis set in, subsiding under simple treatment. Simultaneously the other affected parts showed marked reaction. Consequently the daily applications were limited to forty-five seconds. Nineteen seances had been made in all; and the author considered the beneficial results to be greater than from the application of any other known agent.

Editorials.

FEDERATION OF TORONTO AND TRINITY UNIVERSITIES.

The official announcement of the federation of the University of Trinity College and the University of Toronto was formally made in the *Ontario Gazette*, November 28th:

"The agreement determining the basis of federation provides for a definite separation of the revenues and expenses of the University from those of University College; for the procedure to be observed in case of the unwillingness of the Government to make up the deficiency in revenues in any given year; for the regulation of fees; for the application of Theological Options; for the duplication of University Lectures in Trinity College, the procedure in case of dispute, and the payment of such duplication by the Government as a permanent charge; for the transference of two professors and a lecturer from the staff of Trinity College to that of the University; for the gratuitous allotment of a site in the Queen's Park for a building to be used by the students of the college, and in the meantime, for their free use of rooms in the University until such a building is erected; for the admission of graduates of the College to the status of University graduates; for the appointment of examiners by the College; for the amalgamation of the Faculties of Medicine, and the conditions governing it; for common action in urging the Government: (1) to extinguish the charter of the Toronto School of Medicine, and to refuse incorporation to any other school of medicine; (2) to require the hospitals of Toronto which receive Government aid to afford facilities for clinical teaching; (3) to endow chairs of Sanitary Science and Preventive Medicine."

THE LATE MISS HICKMAN, M.D.

The mysterious disappearance of Miss Hickman, a physician, of London, England, more than three months ago, created quite a sensation. She was appointed one of the resident assistants in the Royal Free Hospital, and was apparently in good physical health. She suddenly disappeared, leaving no clue as to her fate. Week after week passed, but nothing was discovered for

two months, when her dead body was found in a lonely part of the Sidmouth Plantation.

After careful investigation and examination, the coroner's jury returned the following verdict: "We find that on October 18th Sophia Frances Hickman was found dead in the Sidmouth Plantation, and that she died from morphine sulphate, self-administered at a time when she was temporarily insane." It was made quite clear from the evidence at the inquest that Miss Hickman, although in fairly good health, was not mentally in a fit condition to assume her comparatively slight responsibilities in the hospital.

The *British Medical Journal*, in its comments on the sad case, refers to certain lay journals which assumed that the proper moral to be drawn from it was that women should not be exposed to such a strain as that to which Miss Hickman was exposed. The *Journal* very properly expresses the opinion that such a contention is not justified, as many male physicians have broken down under similar circumstances.

The *Journal*, in conclusion, says: "The sympathy of the public, and of the medical profession, will be with the sorrowing family left to mourn the loss of daughter and sister, whose affectionate disposition all unite in praising. There is one small measure of consolation in this case, and that is that the mystery which engaged the attention of the world for so long has now been cleared up, and that the suggestion of foul play which was made repeatedly, even by members of the medical profession, is now proved to have had no foundation."

PUBLIC HEALTH DEPARTMENT.

There is a strong feeling prevalent in the medical profession that a Department of Public Health should be created by the Dominion Government and administered under the authority of one of the Ministers. In the resolution unanimously passed at the last meeting of the Canadian Medical Association, which we publish in this issue, it is pointed out that it is anomalous to have matters pertaining to public health spread throughout four or five departments of the Dominion Government. It is also correctly stated that Canada is not preserving her proper

status among nations in this branch of the public service. These are plain facts which probably no one will think of denying. The establishment of a Public Health Department would also undoubtedly be in the best interests of the public welfare of Canada.

CANADIAN MEDICAL PROTECTIVE ASSOCIATION.

The officers of this very important association are again making an urgent appeal for membership. The annual statement at the London meeting of the Canadian Medical Association showed that the membership is still so small that there is grave danger of actual collapse. No argument is necessary to show that this would be a sad calamity. The appeal for membership by circular letter has thus far been followed by unsatisfactory results.

We should suggest that the officers of the various local medical societies take the matter up, and assist the parent association in greatly increasing the membership. Will the executive officers of the three medical societies of Toronto set a good example and start the ball rolling?

A REASONABLE SETTLEMENT.

It has been a matter of regret in the past that there have been strained relationships between the French and English-speaking physicians of the Province of Quebec which have been largely due to mutual misunderstandings. We have been told of many men who have carefully studied the differences between the two classes that mutual distrust is rapidly disappearing and that the French and English will soon agree on matters pertaining to the medical welfare of the whole Dominion.

We were much pleased in this connection to read an article in the November issue of the *Montreal Medical Journal* under the above heading—"A Reasonable Settlement." It was for months feared, on account of the attitude of the College of Physicians and Surgeons in July last, that the "cours classique

complet," as a preliminary to the entrance examination, would be enforced on all candidates—Protestant and Catholic alike. Quite unexpectedly, however, at the meeting of the College in September an amendment excluding Protestant candidates from the operation to the law which was objectionable to them was accepted.

The *Montreal Journal* goes on to say:

"We make haste to add that this was done in a spirit of perfect fairness and courtesy, which was duly appreciated and acknowledged at the time by the Protestant members of the board. There had evidently been a misunderstanding on both sides, and the satisfactory settlement of the question removes the only grave source of friction between the majority and the minority of the board. Both French and English have to live together, and all signs point to an increasing toleration of the views held by each where they can not be completely reconciled. We shall not be mistaken if we add that the time is at hand when all the elements of the board will operate as a unit for the welfare of medical education and practice. This latest concession, so gracefully made, has materially advanced the interests of all parties."

A CURE FOR TUBERCULOSIS.

We learn from the *Medical Magazine* of England that Prof. Von Behring, of Marburg University, who has for several years past devoted much time to the task of combating tuberculosis in cattle, delivered a remarkable address at the recent meeting of Natural Philosophers and Biologists held at Cassel. He claimed to have discovered some time ago a system of inoculation which serves to produce immunity from tuberculosis, the complete extinction of which now depends only on the technically perfect application of the new method.

Another problem arises out of this discovery. Is the milk of the cow thus protected able to confer immunity? It appears to have done so in the case of many calves. The Professor hopes to make the milk thus rendered immune more efficacious in combating than any remedy which has hitherto been used. Many medical scientists are testing the merit of his theory by experiment. It is expected that a final report will be published and the remedy made accessible to all as soon as the conditions

and limits of therapeutical action in babes of milk rendered immune are scientifically established.

Tuberculosis infection, Prof. Von Behring says, does not always lead to consumptive disease; and he hopes by a rational method to be able successfully to combat that form of infection which finally causes consumption. He also expresses a belief that in the near future all hospitals and homes for consumptive patients will become unnecessary through means similar to those which Jenner used to render small-pox hospitals superfluous.

MEANS OF PROLONGING LIFE.

Sir Herman Weber, M.D., F.R.C.P., in a lecture delivered before the Royal College of Physicians of London, discussed this interesting subject very fully. Although he had no elixir of life to offer, or, in fact, nothing new to say on the means of prolonging life, yet he formulated concisely the rules of personal hygiene which centuries have shown to make a hardier and sturdier manhood. As Sir Herman is past the three score mark, descended, as he told his hearers, from five generations of gouty ancestors, yet with only the slightest tinge of it himself, his views on the matter are worthy of attention.

From a careful analysis of more than 100 cases of very long-lived persons, he came to the conclusion that the majority of them were temperate, lived much in the open air, ate little meat, led an active life (many of them a life of toil and privation), and a great number of them were of a joyful disposition. A good heart and good blood-vessels were absolutely essential, and *ceteris paribus*, the chances of a person of long-lived stock were much better than those of one descended from an ordinary family. Yet, longevity is not necessarily transmitted from father to son.

Among the means for procuring this end he mentions exercise, and walking as the most natural form of it, to be indulged in from one half to two hours every day, in all kinds of weather—"never a whole day at home," as Moltke said. Respiratory exercises are also extremely useful in improving the heart's nutrition. For those of the gouty diathesis the tension exercises are very beneficial.

The body is not a machine, made of dead substance like wood or leather, but of living organs and tissues capable of repairing themselves, and hence not suffering from work, so that Martin Luther's motto "*Rast ich, rost ich*" (if I rest, I rust), is perfectly true. Therefore, Sir Herman recommends regular exercise, with a week-end holiday in the open air, when the patient spends four to six hours in more vigorous exercise than usual. Still more beneficial is the plan of taking once or twice a year a walking or a climbing tour of three or four weeks in mountainous districts, especially on glaciers, with three to six, or occasionally even eight hours' active walking or climbing on most days of the week, provided that the organs of the body are free from disease, and that they be gradually accustomed to the increased work.

Attention to the digestive system and food is almost as necessary for the promotion of longevity as that to the circulatory and respiratory systems. Great moderation in the amount of food, and especially of the most nourishing articles (flesh food and pulses) ought to be practised by everybody, particularly by old people, and is a great aid to longevity. "Essentials among primitive people," says Sir Wm. Temple, "are great temperance, open air, easy labor, little care, simplicity of diet, rather fruits and plants than flesh." In old age the amount of food ought to be very limited, gradually lessened in quantity, and lowered in quality. In the majority of cases, increase of weight after 70 or 75 is not good.

With regard to alcohol there is a popular but fallacious idea that it is most useful to old people, in fact, that "wine is the milk of the aged." Persons with small amounts of albumen in the urine, combined with signs of arterio-sclerosis can, with great restriction in alcohol and meat, prolong their lives considerably. The average duration of life is greatest in total abstainers.

Tea, while not injurious to the majority, may in some patients produce disturbance, and is, perhaps, always an inhibitor of salivary digestion.

Equally important with the organs of circulation and digestion is the nervous system. The brain often decays from want of physical exercise or mental work. To prevent this, lies the use of a hobby, which every man should cultivate while still

in middle life. Many old people derive great benefit from chess, cards, and other intellectual games. Then, too, we must endeavor to cultivate a merry heart. In order to promote cheerfulness and avoid mental depression it is of great importance to educate the sense of duty, restrain the passions and cultivate the will.

While each individual differs greatly in the amount of sleep required, the habit of sleeping too little is less frequent than that of sleeping too much, and nothing is more pernicious than an excess of sleep.

The daily bath is absolutely essential to the health of the skin, especially in old people, the mode of it being left to individual taste, so long as the rubbing gives the skin a gymnastic exercise.

Travelling is a great promoter of longevity by increasing mental activity, and for those who find certain seasons too rigorous, a temporary change of residence to a milder climate may do untold good.

DR. TEEFY'S REPLY TO THE TOAST OF ALMA MATER AT THE ARTS DINNER, UNIVERSITY OF TORONTO.

Alma Mater—Mother benign—how sweetly, how strongly does that term with this epithet, express the delicate relationship between the student and the college or university. Fruitful, strong, prudent, the university nourishes the young, heals the weak, guides the timid and overmasters the potent. With all strength and light of life it leads to higher and better things. Then Alma Mater's duty is more to direct, to mould and form the character than teach all subjects, or the whole of one given subject. Here are formed those friendships which strengthen in enthusiasm, rivalry and affection of youth, which grow with years, and are broken only by the separation of death. Here is a little world in which youths and professors seek the treasures of learning and science, forming a republic whose atmosphere is clearer and whose influence can never be estimated.

The university is something else than a laboratory of original research, although opportunity should be afforded to advance in that direction. Nor is a university the same in character as the academies, which we read of in France or Italy, nor yet the

British Association for the Advancement of Science. According to Newman, it is a place where all subjects are taught; and, according to Virchow, it is a school of general scientific and moral culture, together with the mastery of one special part. But whatever may be its scope, the true and living philosophy is its first and most pressing need and means of discipline. Where this is lacking there is no university. Practical science, physical science, medical science, domestic science may all have their day, and aid largely in the material comfort of the multitude. They cannot satisfy the unquenched thirst for knowledge, nor can they give the answer to that question which lies deepest within the soul. If this is the bread which Alma Mater is to break for her children, then it is not even the crumbs that fall from the rich man's table. You cannot reject the spiritual, the moral, the higher objects of knowledge and be true to the motto which stands over against the western wall of this hall. If such be the only one in this house of learning, Alma Mater can never fulfil her purpose in this young country. She may advance material comforts. She must have something more in her treasury than mere utilitarianism and materialism if she is going to protect society or properly endue the rising generations with these principles, which alone can be the salvation and guardian of the individual, the family and the country.

Sciences are not blocks of wood, each one constituting by itself an integral whole. They co-ordinate together, and one cannot be removed without injury and without the effort being made to falsely supplement it by an inferior article. The soul is a potential totality, and the virtues and sciences are of mutual support to one another, beautifying and strengthening it, edifying it. Even the old Roman orator, before the Christian era, spoke of the common bond which united all the arts pertaining to humanity. Still more is it the case since that Light has come down which gives coloring to all our thought and which enlighteneth every man that cometh into the world.

Here, then, in this university, when, as I think it will be, properly formed, and as I hope it will be, science will find its home, its refuge, and its protection. In those days Canadian youth like yourself will come to this fountain of learning and separate each to his own college hall for instruction in the higher sciences which must ever hold the first place, and must ever have the telling influence on our lives and the well-being of a country.

American Congress on Tuberculosis.

The next American Congress on Tuberculosis will be held on October 3, 4 and 5, 1904, at St. Louis, under the presidency of Dr. E. J. Barrick, of Toronto.

ANNUAL MEETING OF NATIONAL SANITARIUM ASSOCIATION.

The sixth annual meeting of the trustees of the National Sanitarium Association was held in Toronto, November 21st. Among those present were: Sir William R. Meredith, Hon. Geo. W. Ross, W. J. Gage, Hugh Blain, J. J. Crabbe, Dr. N. A. Powell, Fred Roper, Dr. J. H. Elliott, physician in charge of the Muskoka Cottage Sanitarium, and J. S. Robertson, secretary of the association.

The reports of the secretary, auditor, physician-in-charge, respectively, of the Muskoka Cottage Sanitarium and the Muskoka Free Hospital for Consumptives, were of a very gratifying character. The year has been one of great progress. The number of patients in residence at the Cottage Sanitarium has been the largest in the history of the institution, running latterly from 65 to 69 each week. New roofed tents are now being built to bring up the accommodation of this institution to 75. The medical results attained were very satisfactory.

The present is the first complete year of the Free Hospital for Consumptives in Muskoka. The number of patients treated during the year totalled 163, and since the opening of the hospital the number is 224, mainly from the wage-earning classes, 57 different occupations being represented. The number of free patients maintained during the year was 37. Of those who paid in part for their maintenance, the daily average amount per patient received from individuals or municipalities was 34c.

The financial report for the Free Hospital for the year shows that there was a shortage of $13,634.51. In response to the appeals for contributions, $10,375.96 was received during the year, making the net shortage for the year $3,258.55. Not less than $20,000 must be subscribed this year if the Free Hospital is to care for all patients for which it has provided accommodation. During the past year, because of the shrinkage in subscriptions, the management were obliged to close certain wards

ST. BARTHOLOMEW'S HOSPITAL.

At a General Court of Governors of St. Bartholomew's Hospital, held on November 5th, the following resolutions were carried, namely:

1. That this court has come to the following conclusions, namely:

(*a*) That it is impossible, in the public interest, to remove the hospital from its present site.

(*b*) That the additions to and rearrangement and improvement of the existing buildings are absolutely necessary.

(*c*) That an appeal to the public to supply the cost of the requisite new buildings and improvements is fully justified.

2. That in the general scheme for rebuilding provision be made for—

(*a*) Additional operating theatres.

(*b*) New casualty and out-patient departments.

(*c*) New nurses' home.

(*d*) New quarters for the resident medical and surgical staff.

(*e*) An isolation block and other new ward blocks to supply the place of those to be demolished.

(*f*) New mortuary, *post mortem* rooms, and pathological department.

(*g*) Internal structural rearrangement of the east, west and south wings of the hospital.

3. That the first block to be built be the new casualty and out-patient departments, dispensary, etc., and the new operating theatres; that the nurses' home be next built, and that the remaining blocks be built in such order as, having regard to their relative urgency, may be considered most expedient and convenient for the general work of the hospital.

4. That the medical staff be consulted from time to time on all details that affect the sanitary arrangements, the treatment of the patients, or the interests of the medical school.

CANADIAN MEDICAL ASSOCIATION AND A FEDERAL DEPARTMENT OF PUBLIC HEALTH.

Resolution re Department of Public Health.

At the thirty-fifth annual meeting of the Canadian Medical Association, the largest and most representative meeting of the Canadian Medical profession up to that time, and which was held in the city of Montreal on the 16th, 17th, and 18th of September, 1902, the following resolution was proposed by Dr. E. P. Lachapelle, Montreal, and seconded by Dr. J. R. Jones, of Winnipeg:

Whereas, public health with all that is comprised in the term sanitary science, has acquired great prominence in all civilized countries; and

Whereas enormously practical results have been secured to the community at large, by the creation of Health Departments under governmental supervision and control, and

Whereas greater authority and usefulness are given to health regulations and suggestions when they emanate from an acknowledged government department,

Therefore be it Resolved,—That in the opinion of the Canadian Medical Association, now in session, the time is opportune for the Dominion Government to earnestly consider the expediency of creating a separate department of public health, under one of the existing Ministers, so that regulations, suggestions and correspondence on such health matters as fall within the jurisdiction of the Federal Government, may be issued with the authority of a Department of Public Health. That copies of this be sent by the General Secretary to the Governor-General in Council and to the Honorable Minister of Agriculture.

This resolution was strongly supported by Dr. T. G. Roddick, M.P., the Hon. Senator Sullivan, Kingston, and other prominent and influential members of the Association and carried unanimously.

The President of this Association, Dr. Walter H. Moorhouse, of London, Ontario, then appointed the following special committee to take the matter in hand and report at the annual meeting which was held in London, on the 25th, 26th, 27th and 28th days of August 1903. Dr. R. W. Powell, Ottawa (Convener), Dr. T. G. Roddick, M.P., and Dr. E. P. Lachapelle, Montreal. This Committee reported through Dr. Powell to the Association at London on the 26th day of October, as follows:

REPORT OF SPECIAL COMMITTEE.

OTTAWA, August 24th, 1903.

To the President and Members of the Canadian Medical Association:

GENTLEMEN,—Your Committee, consisting of Dr. T. G. Roddick, M.P., Dr. E. P. Lachapelle and Dr. R. W. Powell, convener, acting under instructions from your President, had the honor to wait upon the Prime Minister to present to the Government the resolution passed at the last meeting of your Association on the question of the creation of a Department of Public Health under one of the existing Ministers. The whole matter was gone into thoroughly, and your committee endeavored to press upon the attention of the Government the great desirability and importance of placing all matters included under the term "public health," with which the Dominion Government has to do upon a higher basis than now obtains.

It was pointed out that this Association representing the whole Dominion, in which there are over 5,500 practitioners

had concluded that it would be in the best interests of the general public welfare of the Dominion that such should be done, and that the time had come when Canada should be elevated from the entirely secondary place she now occupies among the nations in this branch of the public service, and that she should at once have a status conferred by Parliament whereby all questions relating to sanitary science and public health should be dealt with from a central authority, to be known as the Public Health Department.

Many matters of detail were not particularly discusssed at the interview inasmuch as your committee felt that their duty consisted chiefly in pressing upon the Government the main idea by endeavoring to show that the present system of having the various subjects scattered throughout several departments, with consequent multiple division of authority, was not calculated to impress the public with the great importance of the administration.

Your committee, moreover, insisted strongly that our profession was a strong, active body of earnest workers, and their number and influence entitled them to this consideration, which was for the public welfare, and not in any way directly or indirectly for their personal benefit, and finally it was pointed out that the skeleton of this plan is already well laid, and a Director-General of Public Health holds an appointment to-day, an earnest, hard-working, able official at present issuing his orders in *re* quarantine from the Department of Agriculture, which is an anomaly *per se*, and lessens the authority in a measure, and yet he has nothing to say as regards sick seamen, sick Indians, adulteration of food, vital statistics, and has no laboratory under his control.

The Prime Minister was most courteous, and listened patiently to the arguments set forth, and finally authorized Dr. Roddick to place a resolution upon the order paper, with a view to having a discussion in Parliament before the Privy Council took up the matter in earnest.

Sir Wilfrid Laurier also stated that, in the absence of the Minister of Agriculture, who was familiar with the whole question, he would not willingly go into the matter at greater length with a view to legislation, in the Minister's absence.

Dr. Roddick's resolution was as follows:

"That it is expedient in the public interest to constitute a Department of Public Health for the Dominion, charged with the execution of the various duties which are, or may be, imposed upon or assumed by the Government, for the protection of the public health, and the prevention and mitigation of diseases, and that such Department of Public Health be administered under the direction of a Minister of the Crown in

conjunction with one of the existing Departments of the Government."

On the return of the Minister of Agriculture from Japan, your committee was again convened, and waited upon him, when the subject was again carefully gone into. The committee feel they have a warm advocate in Mr. Fisher, who is thoroughly alive to the necessities of the case, and if his colleagues in the Government would carefully consider this matter, and the justice and importance of the claim for consideration we as a profession are making, they would readily acquiesce. Some difficulties naturally stand in the way, and some difficulties are easily introduced into the way, but a way can be found for this measure to be put through, as has been found for other measures, and will be found for future measures, if only there is a willingness on the part of the Government to place this matter in the position it ought to occupy. Let me say that Parliament is still in session, and, therefore, it may yet transpire that the final decision of the Government may not be adverse, and the delay will be found to be due only to the great strain of urgent public business of weightier moment.

Your committee express the hope that their efforts have not been entirely in vain, and they beg to report that in their opinion the profession as a whole must continue to press their claims for a proper recognition of this question at the hands of the Government by influencing all those with whom they may come in contact, and moreover by continuing to further influence public opinion by definite announcements from time to time in the form of resolutions emanating from this parent Association, and others of a like character throughout the Dominion.

Respectfully submitted on behalf of your Committee,

(Sig.) R. W. POWELL, *Convener.*

Dr. I. H. Cameron, of Toronto, a past president of the Association, moved the adoption of this report, which was done unanimously after a full and extended discussion. Dr. Adam H. Wright, Toronto, then presented the following resolution, which was seconded by Dr. H. H. Chown, of Winnipeg:

RESOLUTION re PUBLIC HEALTH DEPARTMENT.

Moved by Dr. Adam H. Wright, Toronto, and seconded by Dr. H. H. Chown, Winnipeg, that

Whereas, this Association at its meeting in Montreal, in 1902, placed itself on record by resolution to the effect that it is expedient that a Department of Public Health be created by the

Dominion Government, and administered under the authority of one of the existing Ministers of the Crown;

It is further Resolved at this meeting to again press upon the attention of the Government that Canada is not preserving her status among the nations in this branch of the public service, and that it is anomalous to have the various matters connected with the administration of public health so far as it appertains to the Dominion Government spread throughout four or five departments.

It is further Resolved,—That in the opinion of this Association, the profession of medicine in the country, being actuated in this matter solely in the best interests of the public welfare, and with an earnest wish to place Canada on a par with other civilized countries, is entitled to expect that the Hon. the Privy Council of Canada will, at an early date, take this question into its best consideration, so that by the time our Association meets again in the autumn of 1904, we will be made officially acquainted with a decision.

That a copy of this resolution be transmitted by the Secretary to the Right Honorable the Prime Minister, to the Honorable the Minister of Agriculture, and to the Honorable the Privy Council of Canada, through the Hon. R. W. Scott, Secretary of State.—Carried unanimously.

Dr. S. J. Tunstall, Vancouver, B.C., the President-elect, has re-appointed this special committee, with instructions that they prosecute the matter still further, and be able to present at the next annual meeting in Vancouver, in 1904, a more favorable report.

GEORGE ELLIOTT, *General Secretary.*

TORONTO, December 1st, 1903.

Personals.

Dr. James Paterson, of Buffalo, spent his Christmas holidays in Toronto.

Dr. Leonard Vaux, of Ottawa, visited Toronto in the latter part of December.

Dr. Thomas McCrea, of Baltimore, paid a visit to Toronto during Christmas week.

Dr. James A. Dickson, of Hamilton has been appointed Coroner for Wentworth County.

Dr. J. Ephraim Elliott, of Toronto, has removed from Church Street to 69 Bloor Street East.

Dr. Thomas McCullough (Trin. '84) of Chatsworth, has been appointed Coroner for Grey County.

Dr. C. B. Richardson, of Toronto, has removed from 10 Carlton Street to 128 Bloor Street West.

Dr. W. R. Alway (Tor. '97), of Waterford, has gone to England and is doing post-graduate work.

Dr. D. A. Sinclair (Tor. '03) has gone to England where he is engaged in post-graduate work.

Dr. O. Klotz (Tor. '02) has been appointed to a fellowship in pathology in McGill University, Montreal.

Dr. Angus Ego (Tor. '87) has been appointed Physician to the House of Refuge in the County of Grey.

Dr. J. Orlando Orr left Toronto for New York, December 28th, and remained in the latter city about two weeks.

Prof. W. R. Lang, of Toronto, has been made a Fellow of the Institute of Chemistry of Great Britain and Ireland.

Dr. W. J. Robinson (Tor. '83) has been appointed Medical Health Officer of Guelph in the place of Dr. Howitt, resigned.

Dr. Percival Bollen (Tor. '91) is still practising at Semaphore, South Australia. He sent Christmas greetings to all his Canadian friends.

Dr. J. O. Todd, of Winnipeg, has been appointed Professor of Astronomy in the University of Manitoba in the place of the late Dr. Neilson.

Dr. John W. Scane has been appointed Registrar of the Faculty of Medicine of McGill University, in the place of Dr. Von Eberts, resigned.

Dr. Helen MacMurchy (Tor. '00) has been appointed Consulting Physician and Lecturer on Physiology and Hygiene Branksome Hall, Toronto.

Dr. McLaren has resigned his position as superintendent of the Hamilton General Hospital, and Dr. W. F. Langrill has been appointed to succeed him.

Dr. J. Bryce McMurrich (Trin. '96), of Bothwell, spent his Christmas in Toronto with his parents, Mr. and Mrs. George McMurrich, of Madison Avenue.

Dr. S. H. Westman (Tor. '96), of Toronto, sailed from New York, December 19th, for London, England, where he intends to take a special course in surgery.

Mr. E. G. Swift, formerly manager of the Canadian branch, has been appointed General Manager of the Parke, Davis & Co.'s business in the place of Mr. Warren, deceased.

Dr. Frank Warren, of Whitby, sustained a fracture of the humerus, November 18th, the result of a runaway accident, and on the following day came to the Toronto General Hospital for treatment.

Dr. James Stewart, of Montreal, has nearly recovered from his recent attack of septicemia, but is not yet considered fit for active work. He has gone to Egypt where he will spend the remainder of the winter.

Dr. J. Nisbet Gunn (Tor. '02), who has just returned from the Continent and London, has commenced practice in Clinton with Dr. W. Gunn. While in England he passed the combined M.R.C.S. and L.R.C.P. examinations of London.

Dr. Jas. F. W. Ross, of Toronto, sailed from Boston, December 5th, and reached Naples December 15th. After spending a week in the latter city he went to Alexandria. He expects to remain in Egypt a few weeks and will return to Canada about April 1st.

Dr. R. Y. Parry (Tor. '00), after spending some months in England, went to New York where he spent the greater portion of the year '03 at post-graduate work. He was called to his home, Dunnville, a few weeks ago on account of the last illness of his father. He expects to practice in Hamilton.

The latest reports respecting the condition of the German Emperor are favorable. We are told by the *British Medical Journal* (Dec. 19), on what it calls absolutely trustworthy authority, that the cure of the local ailment is practically complete. The voice is clear and resonant, and only a slight change of timbre is noticeable.

Dr. J. C. Mitchell, formerly of Enniskillen, now a member of the staff of the Toronto Asylum for Insane, has been appointed Medical Superintendent of the Provincial Epileptic Hospital, now being erected at Woodstock. The new building will not be completed until next summer, and leave of absence will be given to Dr. Mitchell this winter to allow him to visit institutions of this sort in other countries.

Dr. C. Harold Bird, of Gananoque, is being sued by Joseph Church, who claims damages for "medical negligence" in connection with the treatment of his son, Henry Church, aged 8. There was small-pox in the town, and Dr. Bird vaccinated about 250 children, among them being Henry Church. Dr. Bird did not see the boy, Church, for about four weeks after the vaccination when he found him suffering from tetanus which caused his death in three days thereafter.

Dr. George W. Badgerow (Tor. '94), who has been in London, England, during the last three years, has been resident surgeon in the Golden Square Throat, Nose and Ear Hospital since last summer. He paid a short visit to Toronto in December, but returned to London, sailing from New York on the *Teutonic* December 23rd. He expects to return to Toronto next spring when he will commence special practice in diseases of the ear, nose, and throat.

Obituary.

GEORGE COOK, M.D.

Dr. George Cook, of Toronto, died at his late residence 26 Leopold Street, December 31st, aged 62. He was graduated M.D., Victoria, in 1864, and practised for many years in Chesley, Bruce County. A few years ago he moved to Toronto, where he lived in comparative retirement.

DR. DAVID SOVEREIGN BOWLBY.

Dr. David Sovereign Bowlby, of Berlin, Ontario, died at Rome, December 27th, aged 77. He had been in poor health for some weeks, and on that account sailed from New York for the Mediterranean, December 16th. He became worse during the sea voyage, and died shortly after he reached Italy. He practised medicine for fifty years in Berlin, and was highly successful in all respects.

OWEN C. BROWN, M.B.

Dr. O. C. Brown (Tor. 74), for many years Grand Trunk Surgeon at Acton, Quebec, and in recent years a practitioner in Detroit, died in the latter city, December 31st.

ROBERT McINTYRE, M.D.

Dr. R. McIntyre, of Hespeler (Victoria, '62), died suddenly in the house of a patient, January 4th. He had practised in Hespeler for forty-one years, was Medical Health Officer of the town for forty years, Public School Trustee for seventeen years, surgeon to the Twenty-ninth Battalion for twenty years, President of Liberal-Conservative Association of Hespeler for several years, and held several prominent positions in the Methodist Church. He was highly successful as a physician, and greatly respected as a citizen.

DR. JOHN HERBERT TROUT.

Dr. John Herbert Trout (Tor. '00) died at Dubuque, Iowa, November 1st.

MR. WILLIAM MATTHEW WARREN.

Mr. William Matthew Warren, who entered the service of Messrs. Parke, Davis & Company, when a lad of seventeen, in 1881, and became General Manager in 1896, died, November 11th, aged 39.

FRED H. S. AMES, M.D.

Dr. Fred Ames died at his late residence, Denver, Colorado, after a long illness, January 4th, aged forty-five. After going through the regular course in the Toronto School of Medicine, he graduated M.B. Tor., and M.D. Vict., in 1880. After practising a few years in Brigden he removed to Sarnia, and from there to Denver about ten years ago. The remains were interred at Sarnia, January 9th.